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#### BOTANICAL NOTES

##### SANE AND SCIENTIFIC FREE-SEED DISTRIBUTION

IN these days when we hear so much in very proper denunciation of the continuation of the congressional free-seed distribution which the United States Department of Agriculture is annually compelled to make, it is well to call attention to some work now quietly carried on by the Bureau of Plant Industry which is not only not open to such criticism, but, on the contrary, very much to be commended. Through inquiries made by a representative of SCIENCE the following authoritative statements have been elicited, and are here published in order to show the nature and scope of a legitimate seed and plant distribution, in contrast with the annual farce which is enacted at the imperious command of a majority of the congressmen. It is due the department to say that in these statements only a few of the lines of work conducted under the appropriations for "the purchase and distribution of valuable seeds" are mentioned.

##### FORAGE CROP WORK

*Introduction and Extension of Alfalfa.*—This work includes the extension of the present range of alfalfa culture in the east and the introduction of new varieties in the west. Special attention is being given to the development of varieties which will resist cold and drought, as well as varieties which will give greater yields than those ordinarily grown. Arabian alfalfa, secured by exploration in 1905, has proved to be by far the heaviest yielder in the southwest. Twelve cuttings were obtained at Mecca, Cal., during the past year as compared with eight cuttings of ordinary alfalfa. This is the most remarkable alfalfa yet found for rapidity of growth.

*Propaganda Work with New and Standard Grasses.*—This work has for its objects the wider utilization of the standard grasses and

the introduction and extension of the culture of new and improved varieties. Experiments with improved varieties of timothy, with meadow and pasture mixtures, and with several new grasses, such as Para grass, Guinea grass, and Natal grass, are being made. During the past year seed has been distributed of the two improved timothies developed by Dr. A. D. Hopkins, both of which possess very superior merit. One of these ripens with red clover and the other is a large yielder.

*Cowpea Investigations.*—The chief object of this work is to secure cheaper and better cowpea seed, so as to bring about a great increase in cowpea culture. The need is for good varieties producing small, hard seeds that will not crack and that retain their vitality for more than one year. The cowpea is to the south what clover is to the north, and the lessening of the cost of the seed and the improvement of varieties are important problems. Much attention is being given to the study and development of harvesting machinery.

*Work with Vetches in the South.*—This work consists of the introduction and encouragement of the growing of vetches throughout the south. The vetch is an exceedingly important plant and its much wider use is greatly to be desired. The development of varieties that will mature in time for cotton-planting, and the distribution of seed of desirable varieties are features of the work. About sixty varieties and species of vetch have been tested for two years. One of these, *Vicia dasycarpa*, is of especial promise, resembling hairy vetch, but being so early that it can be used as a winter crop in rotation with cotton. Seed is being grown in quantity. Extensive cooperative experiments with farmers, especially in the south, with common vetch and hairy vetch have been conducted during the past two years, resulting in great interest in the crop and a greatly increased culture. This work is being continued.

*Tests of New Forage Crops.*—Among the new forage plants under test are the Tangier pea and guar, an East Indian forage plant.

Extensive tests of these plants are being made in various parts of the country, and their culture in promising localities is being encouraged. These tests are being carried on at Arlington, Va.; Chico, Cal.; Pullman, Wash.; and Chillicothe, Tex. Among the most valuable new things so far tested are the Tangier pea, moth bean, and snail clover, all of which are of sufficient promise to warrant distribution. Seed of the first two has been grown in quantity for distribution in 1908.

#### IMPROVED COTTON SEED

THIS work consists of the sending out on congressional and other order of trial packages of seed of the improved varieties of cotton developed by the plant breeders of the Bureau of Plant Industry for boll-weevil districts. Each congressman from the cotton states is assigned a regular quota of eighty packages of this select seed, each package containing one peck. The seed is also sent to cooperators and others.

#### IMPROVED TOBACCO SEED

THIS work is conducted on the same plan as the cotton-seed distribution, the improved varieties of tobacco being sent out on both congressional and other request. The Bureau of Plant Industry has developed several improved tobaccos, and the seed secured in the breeding work is distributed each season.

#### IMPROVED MELON SEED, CITRUS HYBRIDS, ETC.

THE Bureau of Plant Industry also distributes each year seed of improved wilt-resistant melons, which are being developed in connection with the pathological work; and also young trees of improved and new citrus fruits, such as citranges, tangelos, etc.

#### AGRICULTURAL EXPLORATIONS

THE Bureau of Plant Industry conducts systematic agricultural exploration work in foreign countries. Purchases are made in all parts of the world, including seeds and plants for trial by the experiment stations and others, and the shipments arrive at the rate of eight or nine a day. One of its explorers has

completed a year of search through Manchuria and North China for hardy fruits, vegetables, grains and forage crops. He has secured and shipped in over 1,000 things, among them promising new alfalfas, seedless persimmons four inches in diameter, hardy Chinese pears, the Shantung peach for the dry southwest, new North China grapes, the seedless Chinese date, timber bamboos, new cow-peas, new soy beans, a new rose, a new sand cherry, a remarkable series of new shade trees and sorghums, etc. These things are now being tested in those portions of this country which have a climate like that of North China, where the thermometer goes down to 15 or 20 degrees below zero.

#### DATE INTRODUCTIONS AND DATE GARDENS

A LARGE collection of the remarkable date varieties from the upper Tigris River in the region of Bagdad is now being gotten together by the American consul, and these will be sent to this country next spring. Large purchases of date seeds and fruit of the Morocco varieties have been made this season. Two date gardens are being maintained in California, one at Mecca and the other at Indio. In the Mecca garden are assembled 394 palms imported from foreign countries. They occupy fifteen acres of land and are without doubt the largest ever gotten together in any country. It has been demonstrated that the date palm can be grown successfully in California and Arizona as a result of this work during the last eight years.

#### MATTING PLANT INTRODUCTION

THE floor-matting industry costs the United States four million dollars in imports every year. There are perfected looms in America which are fed by the imported material—rush and sedge straw. The Americans are being shut out of the Japanese market by the Japanese manufacturers and must get their raw material in this country or take their machines to Japan and operate them there. An explorer was sent to Japan by the Department of Agriculture and secured, notwithstanding the opposition of the Japanese mat-

ting guilds, 75,000 plants of the Japanese rush and 380,000 plants of the Japanese sedge. It was found necessary to increase these quantities by propagation, but car-load lots have now been sent to points in Texas, Louisiana, South Carolina and California, where contracts have been made for the planting of trial areas under normal field conditions.

#### BAMBOO INTRODUCTION

THE timber bamboos of the Orient are among the most profitable plant cultures of the orientals. Scattering groves of these plants in America have demonstrated that they can be grown profitably on land that is not now occupied by crops, such as the "cane-brake" lands of the south. The uses in this country to which bamboos can be put are being studied. Early introductions into the plant introduction garden at Chico, Cal., have been growing successfully and an explorer has been appointed to get up a shipment of the best timber forms and import them the coming spring. Hardier forms than the Japanese have been found in China, drought resistant forms are being ordered from India, and the tropical giant forms will be secured from the planters in Porto Rico.

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#### THE NATIONAL EDUCATIONAL ASSOCIATION

THE National Educational Association meets at Cleveland Ohio, from June 29 to July 3, under the presidency of Mr. Edwin G. Cooley, of Chicago. The program of the general sessions is as follows:

##### *Monday Afternoon, June 29*

Addresses of welcome by Hon. Tom L. Johnson, mayor of city of Cleveland, Ohio, and by Dr. Charles S. Howe, president of Chamber of Commerce, Cleveland Ohio.

Response by William O. Thompson, president of Ohio State University, Columbus, Ohio.

Report of Educational Progress for the Year, by Charles F. Thwing, president of Western Reserve University, Cleveland, Ohio.

##### *Monday Evening, June 29*

Annual address of the president, Joseph Swain, president of Swarthmore College.

"Compulsory Education in Industries in the Schools of London," by Cloudeley S. H. Brereton, divisional inspector for the London Council, London. (Appointment provisional.)

"Adaptation of the Public School to Industrial Ends," by Andrew S. Draper, commissioner of education for the state of New York, Albany, N. Y.

##### *Tuesday Evening, June 30*

"The Rein and Spur," by J. C. Willis, president of Louisville University, Louisville, Ky.

"Negro Education and the Nation," by Booker T. Washington, president of Tuskegee Institute, Tuskegee, Ala.

"The Function of Education in a Democracy," by Martin G. Brumbaugh, superintendent of schools, Philadelphia, Pa.

##### *Wednesday Afternoon, July 1*

"Reconcilement of Cross Purposes in Education of Women" by Sarah Louise Arnold, dean of Simmons College, Boston, Mass.

"The School and the Immigrant Child," by Jane Addams, Hull House, Chicago, Ill.

"The School and the Practise of Ethics," by Ella Flagg Young, principal of Chicago Normal School, Chicago, Ill.

##### *Friday Morning, July 3*

"The Personal Touch in Teaching," by Andrew F. West, dean of the Graduate School, Princeton University, Princeton, N. J.

"Personal Power of the Teacher in Public School Work," by William H. Maxwell, superintendent of schools, New York City.

Those announced to read papers before the department of higher education are the president of the department, Dr. Oscar J. Craig, and Professors R. J. Alley, Charles Fordyce, David S. Snedden, W. H. Crawford and W. N. Stearns. Those announced to read papers before the department of science instruction are Messrs. R. H. Whitbeck, N. M. Fenniman, Robert A. Millikan and Miss Martha K. Genthe. An evening session will be addressed by Professor L. H. Bailey and Mr. Gifford Pinchot.

#### THE HANOVER MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

WITH the issue of SCIENCE for May 29 there was distributed the preliminary announcement of the special summer meeting of the as-